

acm Transactions on Mathematical Software

Volume 22 • 1996

Editor-in-Chief / Information Director

Ronald F. Boisvert

Associate Editors

Martin Berzins
Luc Devroye
W.H. Enright
Patrick Gaffney
John R. Gilbert
Eric Grosse
Richard Hanson

David S. Johnson
J.L. Nazareth
John Reid
John R. Rice
Michael Saunders
William V. Snyder
Richard Zippel

Published by ACM, Inc.

Copyright 1996 Association for Computing Machinery, Inc.
1515 Broadway, New York, NY 10036

Research Articles

- 348 **Andersen, K.D.** A Modified Schur-Complement Method for Handling Dense Columns in Interior-Point Methods for Linear Programming. (Sept.), 348–356.
- 469 **Barber, C.B., Dobkin, D.P., and Huhdanpaa, H.** The Quickhull Algorithm for Convex Hulls. (Dec.), 469–483.
- 18 **Buis, P.E. and Dyksen, W.R.** Efficient Vector and Parallel Manipulation of Tensor Products. (Mar.), 18–23.
- 401 **Butcher, J.C., Cash, J.R., and Diamantakis, M.T.** DESI Methods for Stiff Initial-Value Problems. (Dec.), 401–422.
- 401 **Cash, J.R.** See Butcher, J.C. (Dec.), 401–422.
- 401 **Diamantakis, M.T.** See Butcher, J.C. (Dec.), 401–422.
- 469 **Dobkin, D.P.** See Barber, C.B. (Dec.), 469–483.
- 187 **Duff, I.S. and Reid, J.K.** The Design of MA48: A Code for the Direct Solution of Sparse Unsymmetric Linear Systems of Equations. (June), 187–226.
- 227 **Duff, I.S. and Reid, J.K.** Exploiting Zeros on the Diagonal in the Direct Solution of Indefinite Sparse Symmetric Linear Systems. (June), 227–257.
- 30 **Duff, I.S. and Scott, J.A.** The Design of a New Frontal Code for Solving Sparse, Unsymmetric Systems. (Mar.), 30–45.
- 18 **Dyksen, W.R.** See Buis, P.E. (Mar.), 18–23.
- 423 **Eastham, M.S.P., Fulton, C.T., and Pruess, S.** Using the SLEDGE Package on Sturm-Liouville Problems Having Nonempty Essential Spectra. (Dec.), 423–446.
- 46 **Freund, R.W. and Nachtigal, N.M.** QMRPACK: A Package of QMR Algorithms. (Mar.), 46–77.
- 423 **Fulton, C.T.** See Eastham, M.S.P. (Dec.), 423–446.
- 447 **Houstis, C.E.** See Weerawarana, S. (Dec.), 447–468.
- 447 **Houstis, E.N.** See Weerawarana, S. (Dec.), 447–468.

- 469 **Huhdanpaa, H.** See **Barber, C.B.** (Dec.), 469–483.
- 261 **Hull, T.E.** and **Mathon, R.** The Mathematical Basis and a Prototype Implementation of a New Polynomial Rootfinder with Quadratic Convergence. (Sept.), 261–280.
- 447 **Joshi, A.** See **Weerawarana, S.** (Dec.), 447–468.
- 78 **Kågström, B.** and **Poromaa, P.** LAPACK-Style Algorithms and Software for Solving the Generalized Sylvester Equation and Estimating the Separation between Regular Matrix Pairs. (Mar.), 78–103.
- 493 **Koenker, R.W.** and **Ng, P.T.** A Remark on Bartels and Conn's Linearly Constrained, Discrete l_1 Problems. (Dec.), 493–495.
- 393 **Lehoucq, R.B.** The Computation of Elementary Unitary Matrices. (Dec.), 393–400.
- 261 **Mathon, R.** See **Hull, T.E.** (Sept.), 261–280.
- 46 **Nachtigal, N.M.** See **Freund, R.W.** (Mar.), 46–77.
- 493 **Ng, P.T.** See **Koenker, R.W.** (Dec.), 493–495.
- 78 **Poromaa, P.** See **Kågström, B.** (Mar.), 78–103.
- 423 **Pruess, S.** See **Eastham, M.S.P.** (Dec.), 423–446.
- 187 **Reid, J.K.** See **Duff, I.S.** (June), 187–226.
- 227 **Reid, J.K.** See **Duff, I.S.** (June), 227–257.
- 496 **Reid, J.K.** Remark on "Fast Floating-Point Processing in Common Lisp." (Dec.), 496–497.
- 447 **Rice, J.R.** See **Weerawarana, S.** (Dec.), 447–468.
- 484 **Sarkar, T.** A Composition-Alias Method for Generating Gamma Variates with Shape Parameter Greater than 1. (Dec.), 484–492.
- 30 **Scott, J.A.** See **Duff, I.S.** (Mar.), 30–45.
- 281 **Sosonkina, M., Watson, L.T., and Stewart, D.E.** Note on the End Game in Homotopy Zero Curve Tracking. (Sept.), 281–287.
- 281 **Stewart, D.E.** See **Sosonkina, M.** (Sept.), 281–287.
- 119 **Wallace, C.S.** Fast Pseudorandom Generators for Normal and Exponential Variates. (Mar.), 119–127.
- 281 **Watson, L.T.** See **Sosonkina, M.** (Sept.), 281–287.
- 447 **Weerawarana, S., Houstis, E.N., Rice, J.R., and Joshi, A.** PYTHIA: A Knowledge-Based System to Select Scientific Algorithms. (Dec.), 447–468.

Algorithms, Certifications, and Remarks

- 357 **Akima, H.** Algorithm 760: Rectangular-Grid-Data Surface Fitting that Has the Accuracy of a Bicubic Polynomial. (Sept.), 357–361.
- 362 **Akima, H.** Algorithm 761: Scattered-Data Surface Fitting that Has the Accuracy of a Cubic Polynomial. (Sept.), 362–371.
- 329 **Blom, J.G.** and **Verwer, J.G.** Algorithm 759: VLUGR3: A Vectorizable Adaptive-Grid Solver for PDEs in 3D—Part II. Code Description. (Sept.), 329–347.
- 302 **Blom, J.G., Trompert, R.A., and Verwer, J.G.** Algorithm 758: VLUGR2: A Vectorizable Adaptive-Grid Solver for PDEs in 2D. (Sept.), 302–328.
- 372 **Brown, B.W., Spears, F.M., Levy, L.B., Lovato, J., and Russell, K.** Algorithm 762: LLDRLF, Log-Likelihood and Some Derivatives for Log-F Models. (Sept.), 372–382.

- 24** **Buis, P.E.** and **Dyksen, W.R.** Algorithm 753: TENPACK: A LAPACK-Based Library for the Computer Manipulation of Tensor Products. (Mar.), 24–29.
- 168** **Driscoll, T.A.** Algorithm 756: A MATLAB Toolbox for Schwarz-Christoffel Mapping. (June), 168–186.
- 24** **Dyksen, W.R.** See **Buis, P.E.** (Mar.), 24–29.
- 131** **Griewank, A., Juedes, D., and Utke, J.** Algorithm 755: ADOL-C: A Package for the Automatic Differentiation of Algorithms Written in C/C++. (June), 131–167.
- 131** **Juedes, D.** See **Griewank, A.** (June), 131–167.
- 372** **Levy, L.B.** See **Brown, B.W.** (Sept.), 372–382.
- 385** **Kearfott, R.B.** Algorithm 763: INTERVAL_ARITHMETIC: A Fortran 90 Module for an Interval Data Type. (Dec.), 385–392.
- 104** **Li, Y.** See **Resende, M.G.C.** (Mar.), 104–118.
- 372** **Lovato, J.** See **Brown, B.W.** (Sept.), 372–382.
- 288** **MacLeod, A.J.** Algorithm 757: MISCFUN, A Software Package to Compute Uncommon Special Functions. (Sept.), 288–301.
- 104** **Pardalos, P.M.** See **Resende, M.G.C.** (Mar.), 104–118.
- 258** **Price, D.T.** Remark on Algorithm 715. (June), 258.
- 1** **Renka, R.J.** Algorithm 751: TRIPACK: A Constrained Two-Dimensional Delaunay Triangulation Package. (Mar.), 1–8.
- 9** **Renka, R.J.** Algorithm 752: SRFPACK: Software for Scattered Data Fitting with a Constrained Surface Under Tension. (Mar.), 9–17.
- 104** **Resende, M.G.C., Pardalos, P.M., and Li, Y.** Algorithm 754: Fortran Subroutines for Approximate Solution of Dense Quadratic Assignment Problems Using GRASP. (Mar.), 104–118.
- 372** **Russell, K.** See **Brown, B.W.** (Sept.), 372–382.
- 498** **Snyder, W.V.** Remark on Algorithm 723: Fresnel Integrals. (Dec.), 498–500.
- 372** **Spears, F.M.** See **Brown, B.W.** (Sept.), 372–382.
- 302** **Trompert, R.A.** See **Blom, J.G.** (Sept.), 302–328.
- 131** **Utke, J.** See **Griewank, A.** (June), 131–167.
- 302** **Verwer, J.G.** See **Blom, J.G.** (Sept.), 302–328.
- 329** **Verwer, J.G.** See **Blom, J.G.** (Sept.), 329–347.